128,119

PATENT SPECIFICATION

Application Date, Nov. 21, 1918. No. 19,150/18.
Complete Accepted, June 19, 1919.

COMPLETE SPECIFICATION.

Improvements in Electric Relays.

I, ARCHIBALD MONTGOMERY LOW, Major R.A.F., of Royal Air Force Experimental Works, Feltham, Middlesex, do hereby declare the nature of this invention and in what manner the same is to be performed, to be particularly described and ascertained in and by the following statement:—

This invention relates to electric relays and has for its object to provide an improved device of this nature which may be of an extremely sensitive character while not liable to interruption in operation due to sticking or other causes.

The invention consists in a relay of the spring-armature type provided with means for adjusting the tension of the spring.

The invention also consists in a relay of the spring-armature type in which the spring armature is rigidly supported at one end while adjusting screws are disposed on opposite sides of the spring preferably at a point near the fixed end.

The invention also consists in an electric relay of the spring-armature type provided with means for adjusting the magnet relatively to the armature.

The invention further consists in a relay of the above character in which the armature spring is surrounded by a coil of a few turns of comparatively heavy wire through which a current is passed, this coil having the effect of oscillating or disturbing the particles in the armature and thus preventing any sticking of the latter in operation.

The accompanying drawings illustrate one form of relay in accordance with the invention.

Figure 1 being a plan while

Figure 2 is a front elevation.

In carrying my invention into effect in the manner illustrated I may provide any suitable form of base or table *a* for supporting the parts of the apparatus, and the poles *b* of the electromagnet I connect by means of a suitable yoke *c* which is adapted to be moved within the limits allowed by the slot *d* by means of an adjusting screw *e*, this adjustment being provided in order that the electromagnet (which may be a permanent magnet with windings) may be moved relatively to the armature *f*, the magnet being held in any required position by the clamping screw *g*.

The armature *f* is mounted upon a spring arm *h* rigidly fixed at one end as, for example, by means of the pillar *i* and provided at its free end with the usual contact points *k* in association with the adjusting screws *l*.

In order to facilitate the adjustment of the sensitivity of the relay means are provided for adjusting the tension of the spring arm *h*, such means in the form illustrated comprising adjusting screws *m* mounted in fixed pillars *n* upon opposite sides of the spring arm and preferably adjacent to the fixed end *i*,

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As the construction described provides for the production of an extremely sensitive relay difficulties may be experienced in operation due to a tendency on the part of the armature to stick and this tendency I eliminate by providing round the spring arm at a convenient point in its length a coil *o* of relatively few turns of comparatively heavy wire through which coil an electric current of suitable strength is passed, the coil being either arranged in series with the coil of the electromagnet or in a separate circuit as desired. The current passing through the coil may be of an intermittent character or it may be such as to produce a slight polarity opposite to that impressed upon the armature by the poles of the electro-magnet which attracts the same.

Having now particularly described and ascertained the nature of my said invention and in what manner the same is to be performed, I declare that what I claim is:—

1. An electric relay of the spring armature type in which the spring arm is rigidly supported at one end while adjusting screws are disposed on opposite sides of the arm preferably at a point near the fixed end.

2. An electric relay as claimed in Claim 1 provided with means for adjusting the magnet relatively to the armature.

3. An electric relay as claimed in the preceding claims in which the spring arm is surrounded by a coil of relatively few turns of comparatively heavy wire through which an electric current is passed.

4. An improved electric relay, substantially as hereinbefore described and as illustrated by the accompanying drawings.

Dated this 22nd day of October, 1918.

MARKS & CLERK.

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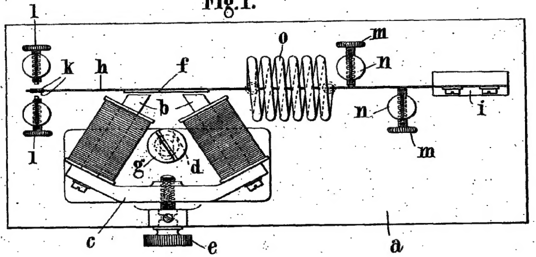
[This Drawing is a reproduction of the Original on a reduced scale.]

Fig.1.



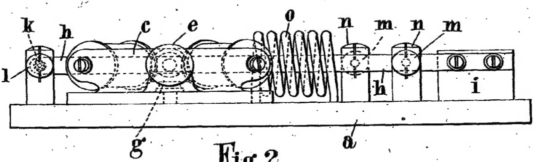


Fig.2.

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